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PROPRIETARY AND CONFIDENTIAL

To: Mark McCanney, Eric Seyboldt  
From: John Rose  
Date: April 22, 2014  
Subject: Preliminary Novus Analysis  
Copy: Don Dady, Eric Denham

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This memo discusses our preliminary pricing analysis of the Transitions Estate Rider (TER). This memo does not include any sample rates, since the actual rates will depend on the carrier's profit targets and assumptions. However, as discussed below, our generic pricing methodology suggests that we can increase a carrier's existing GLWB income payout by roughly 10 to 30% depending on the owner's and beneficiary's issue age. However, as discussed in section D the amount of improvement depends on the carrier's profit targets and assumptions, and therefore could end up being quite different than suggested in this memo, and possibly even zero.

A. Analysis Approach

The proposed TER benefit proposition would guarantee a specified amount of annual income to a beneficiary on the death of the owner. The Appendix shows a sample client page provided by Novus. This page shows a "pension base" and guaranteed "annual payment" for each future contract anniversary.

As we have discussed in the past, it may not be possible to create the contract structure proposed in the Appendix (parent owner whose death triggers income going to the child) using a GLWB rider. That is the reason we proposed to design TER as a GMDB rider. However, it is possible today to create a page with the same values as the Appendix using the benefit base and guaranteed income amounts from any carrier's GLWB rider. Therefore, we suspect that in practice, agents would only want to sell TER if it performs better than a GLWB rider. Otherwise, they would be trying to sell something with both less flexibility and worse income than a standard GLWB rider. Therefore, we believe that the appropriate way to analyze the feasibility of the TER rider is to see if it produces better payout rates than a GLWB rider.

One way to test this would be for us to create sample TER rates, and see if they can beat existing GLWB riders. However, we do not believe this is a fair comparison. Genesis prices with what we believe to be realistic assumptions, while other carriers appear to be much more aggressive. Even with the reserve advantage of TER (discussed below in

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section C), our TER income amounts might be less than GLWB income of some of the more aggressive carriers, such as Security Benefit.

Therefore, we decided that a fair basis of comparison would be to see if a "typical" carrier could afford to offer higher income rates under TER than under a GLWB rider. To test this, this memo prices a GLWB rider and TER rider designed using consistent pricing assumptions, and compares the results.

## **B. TER Design**

For this memo, the TER design is as follows:

- Designed as a rider which will be added to an existing base contract.
- GMDB rider with rollup benefit base. For this memo, I used a rollup of 7% compounded for 15 years.
- There are income factors for this rider. For this memo, I used a generic set of factors: 3.0% for an income start age of 45 grading 0.1% for each year, capping at 7.5% for an income start date of 90 or later.
- There is a charge for the rider. For this memo, I used a charge of 75 bp of the benefit base.
- On death of the owner, there is no lump sum death benefit available. Instead, the benefit base is applied to purchase a SPIA.
  - The SPIA is not a regular SPIA with low guaranteed rates, but a special SPIA with guaranteed rates similar to those found under a GLWB rider. As discussed below, these SPIA rates may depend on both the owner's and beneficiary's ages.
  - In this memo, I assumed that the SPIA had a certain period equal to the IRS life expectancy of the beneficiary at the time income commences. For this purpose, I used IRS table 1, which is used for exclusion ratio treatment.

We believe that payments under this design qualify for exclusion ratio treatment. Other than exclusion ratio treatment, Genesis did not investigate the tax treatment of income payments to the beneficiary generated as a result of the death of the owner regarding such items as such as younger annuitants, life expectancies of multiple beneficiaries, gift tax, very high maturity ages to avoid forced annuitization, qualified plans, 10% excise tax, etc. These should be confirmed and documented by Novus before we introduce the concept to a prospective carrier.

Genesis also did not investigate the legal ramifications of the proposed sales approach shown in the Appendix. For instance, under a typical annuity, the beneficiary is not notified when that annuity is purchased, yet that seems an integral part of the Novus sales proposal. What issues are created if the beneficiary falls out of favor with the owner, and

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the owner wishes to remove them from the contract? Or what happens if the owner surrenders the contract for cash and the beneficiaries get nothing? Again this should be confirmed by Novus.

### C. Sample Improvements

As mentioned, we are pricing GLWB and TER on a consistent basis, to see if TER can offer higher guaranteed income amounts than GLWB. For this purpose, we priced a typical GLWB rider using a typical Annexus product, and generic Genesis pricing assumptions, rather than those for a specific carrier. As well, for TER only, we built in additional compensation for Novus of 0.15% of premium, plus a trail equal to 2 basis points of account value annually.

The pricing in this memo uses Actuarial Guideline 33 which we believe is the current mandated reserve methodology for all annuities. For a regular GLWB rider, it requires carriers to assume that all clients choose to elect income in the single year that is most expensive to the company on a present value basis. By contrast, for TER, the clients do not have a choice, so instead Actuarial Guideline 33 requires carriers to assume that the income start date is spread out over all future dates, both expensive and cheaper, with the incidence by date based on the mortality of the owner. This results in much lower reserves for TER, which leads to lower reserve strain, and a higher IRR for the carrier.

Because of this lower reserve strain, it is possible to improve the income factors for TER versus GLWB, and still meet the IRR target. Subject to the extensive caveats in section D, the table below shows possible improvements in income factors for TER versus a similarly priced GLWB while still meeting the IRR target. For example, a value of 12% in the table means that the guaranteed income in any future year for TER is 112% of what we could afford for GLWB with the same beneficiary age. So if the GLWB income factor for a given income start age is 5%, then we can afford 5.60% under TER. (This table assumes we increased the GLWB income factors by the same percentage for all income start ages. In practice, when setting income factors for TER, we might choose to selectively increase them for certain ages rather than using a constant percent across the board.)

Table of Income Factor Improvements

Beneficiary Age	Owner Age	Improvement versus GLWB for same beneficiary age
45	65	30%
	75	10%
55	75	8%
	80	12%

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Note that the above percentages are based on a pre-tax comparison. We anticipate that TER will deliver income with exclusion ratio treatment and thus will have an additional benefit for non-qualified sales.

This table highlights that the pickup that maintains IRR depends on the owner's age. This suggests that income factors might need to be more complicated than for regular GLWBs. Most GLWBs have "one-dimensional" income factors that vary only by attained age when income starts. However, this analysis suggests we might need a two-dimensional table based on both owner issue age, and beneficiary attained age when income starts, or even a three-dimensional table which varies by owner issue age, beneficiary issue age, and beneficiary age when income starts. Structuring such a table will lead to some interesting marketing/economic/administrative tradeoffs.

#### **D. Caveats**

The improvements in the above table are very sensitive to changes in design or assumptions. If we take the idea to a specific carrier and use their assumptions, then the actual improvements could be very different than shown above, or there could conceivably be no improvement at all.

The key factors that could change the income factor improvement are:

##### **1. Reserves and Profit Target**

As mentioned above, the main pricing advantage of TER is that reserves are lower, which leads to a higher statutory IRR. This means that the income factor improvement versus GLWB would be much lower than shown above if either of the following occurred:

- a) A carrier uses a profit target other than Statutory IRR. Lower reserves improve the carrier's IRR, but not their economic value. So if a carrier uses a profit target like premium margin or economic value added, instead of IRR, then TER will not have better rates than GLWB.
- b) A carrier uses a more aggressive reserve basis for GLWB. Our pricing for GLWB uses Actuarial Guideline 33, which results in high reserves for GLWB, and therefore a noticeable reserve reduction for TER. However, if a carrier uses lower reserves for GLWB to begin with, then the reserve reduction and resulting IRR improvement from TER will be smaller, meaning the income factor improvement will be smaller. This could happen in the following cases:
  - We suspect that some carriers are currently using a more aggressive reserve basis than Guideline 33, since otherwise their products would create huge strain.

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- We understand that some states have in the past allowed a more aggressive reserve basis than Guideline 33. It is our understanding that some of these states have pulled back from this permitted practice.
- The NAIC is exploring principles based reserving. When this occurs, we expect that carriers who currently use Guideline 33 will be able to hold reserves which reflect a reasonable mix of income start dates, rather than assuming everybody picks the most expensive one. This will reduce the reserve for GLWB.
- States may explore temporary measures to reduce reserves before principles based reserving is implemented.

## 2. GLWB Design

Introducing the TER concept changes the timing of when income begins, since it is triggered by death, instead of by client choice. Some carriers set rollup rates and income factors on their regular GLWB so that the profit is roughly the same regardless of when income starts; for these carriers, the fact that TER changes timing won't have a big impact on profit. Other carriers set rates in a simplified fashion, which by definition means they can't get the same profit for every income start date. For these carriers, the fact that TER changes timing might have a bigger impact on profit, and therefore the level of income improvement.

Therefore, the overall level of income improvement, and the pattern for different ages, will depend on the rollup period and income factors for the carrier's regular GLWB design.

## 3. Carrier Assumptions

The results in this memo are based on generic Genesis assumptions for lapses, mortality, expenses, income start dates, etc. Although the generic Genesis assumptions are a reasonable starting point, each carrier asks us to use their own assumptions. Changing any of these assumptions will change the relationship between TER and GLWB profitability, which will change the amount of income factor improvement.

## 4. Single versus Joint Pricing

The analysis in this memo looks at a single owner. In practice, the actual sales track might involve two parents as joint owners, with the beneficiary receiving the income only on the second death of the parents. We have not yet explored the impact on pricing.

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### Appendix—Sample Sales Material



Dear Child One,

Nationwide is committed to assisting our clients with their financial planning needs. We are getting in touch with you because (Mrs. Estelle Client) recently purchased the Transitions Annuity. One of the benefits of this annuity is that, in the event that there are any remaining funds in the contract upon her/their death, you will have the opportunity to use the funds as a personal pension account.

As of the issue date of the contract, your estimated annual pension amount is **\$12,500**. A table illustrating subsequent year pension values is furnished below to aid you in your income planning.

If you have any questions, please get in touch with (Mrs. Estelle Client) or her agent (Clark Kent).

Year	Pension Base	Annual Payment
1	\$ 250,000	\$ 12,500
5	\$ 330,000	\$ 16,500
10	\$ 430,000	\$ 21,500
15	\$ 530,000	\$ 26,500
16	\$ 550,000	\$ 27,500
17	\$ 570,000	\$ 28,500
18	\$ 590,000	\$ 29,500
19	\$ 610,000	\$ 30,500
20	\$ 630,000	\$ 31,500

Sincerely,

Nationwide Service Team